



SUBJECT: **STROKE PERFORMANCE MEASURES**

REFERENCE NO. 322.1

PURPOSE: To provide standardized quantifiable indicators to assess and evaluate the performance, quality of care and program management of Emergency Medical Services (EMS) Agency designated Stroke Centers.

DEFINITIONS:

Door to Device Time (D2D): A time measurement that starts with the patient's arrival in the Emergency Department (ED) at the Comprehensive Stroke Center (CSC) and ends with the first pass of thrombectomy device.

Door to Needle Time (D2N): A time measurement that starts with the patient's arrival in the ED, and ends when IV thrombolytics are started.

First Medical Contact to Device Time (FMC2D): A time measurement that starts with the arrival of EMS at the patient and ends with the first pass of thrombectomy device.

First Medical Contact to Needle Time (FMC2N): A time measurement that starts with the arrival of EMS at the patient and ends when IV thrombolytics are started.

Stroke Center: A licensed general acute care hospital that has met all Primary Stroke Center (PSC) or CSC requirements in Ref. No. 322, Stroke Receiving Center Standards and has been designated by the LA County EMS Agency as a PSC or CSC.

POLICY:

- I. The Stroke Center shall meet compliance threshold on all performance measures to maintain Stroke Center Designation.
- II. The EMS Agency may terminate Stroke Center designation at any time if Stroke Center's non-compliance with the Performance Measures are deemed significant to result in poor patient outcomes.
- III. Performance Measures:
 - A. 9-1-1 EMS patients meeting EMS Agency inclusion criteria are captured in the Stroke Database 90% of the time.
 - B. D2N for EMS patients is within 60 minutes 75% of the time and within 45 minutes 50% of the time.
 - C. FMC2N for EMS patients is within 90 minutes 75% of the time and within 75 minutes 50% of the time.
 - D. D2D for EMS patients is within 120 minutes 50% of the time.
 - E. FMC2D for EMS patients is within 150 minutes 50% of the time.

- F. For inter-facility transfers for large vessel occlusion treatment, ambulance is at stroke referral hospital within sixty (60) minutes from time of CSC acceptance of transfer patient 90% of the time.
- G. D2D for transfer patients is within 90 minutes 75% of the time and within 60 minutes 50% of the time.

IV. Tracking Measures

- A. Percentage of ischemic stroke patients with a large vessel cerebral occlusion (i.e., internal carotid artery (ICA) or ICA terminus (T-lesion; T-occlusion), middle cerebral artery (MCA) M1 or M2, basilar artery) who receive mechanical endovascular reperfusion (MER) therapy and who achieve TIC1 2B or higher for the primary vessel occlusion \leq 60 minutes from the time of skin puncture.
- B. Percentage of ischemic stroke patients who develop a symptomatic intracranial hemorrhage (i.e., clinical deterioration \geq 4 point increase on National Institutes of Health Stroke Scale (NIHSS) and brain image findings of parenchymal hematoma, or subarachnoid hemorrhage, or intraventricular hemorrhage) \leq 36 hours after the onset of treatment with intravenous (IV) thrombolytic therapy only.
- C. Percentage of ischemic stroke patients who develop a symptomatic intracranial hemorrhage (i.e., clinical deterioration \geq 4 point increase on National Institutes of Health Stroke Scale (NIHSS) and brain image findings of parenchymal hematoma, or subarachnoid hemorrhage, or intraventricular hemorrhage) \leq 36 hours after the onset of treatment with intra-arterial (IA) thrombolytic therapy or MER therapy.
- D. Percentage of ischemic stroke patients treated with intra-venous (IV) or intra-arterial (IA) thrombolytic therapy or who undergo MER therapy and have a discharge modified Rankin Scale \leq 2 or back to baseline.
- E. Percentage of confirmed stroke patients transported to your hospital by EMS and for whom \leq 90 minutes was spent in the ED prior to transfer to a higher-level stroke center for time-critical therapy (e.g., MER)

V. Procedure for Non-Compliance with Performance Measures

Failure to meet any of these Performance Measures for two consecutive quarters (six months) will result in the corrective action as listed below.

Month	Action 1	Compliance Result	Action 2
7 th	Stroke Center continues data collection for patients who meet inclusion criteria		
8 th	EMS Agency reviews Stroke Center's 7 th month compliance with all performance measures	Stroke Center does not meet 90% compliance in any one of the performance measures	EMS Agency notifies Stroke Medical Director and Program Manager via e-mail or telephone, of non-compliance and assist in determining solutions.
		Significant Improvement	Monitor

Month	Action 1	Compliance Result	Action 2
9 th	EMS Agency reviews Stroke Center's 8 th month compliance with all performance measures	No significant improvement Significant improvement	EMS Agency sends a written notice to Stroke Medical Director and Program Manager notifying of compliance results and continued non-compliance. Monitor
10 th	EMS Agency reviews Stroke Center's 9 th month compliance with all performance measures	No significant improvement Significant improvement	EMS Agency notifies Stroke Medical Director and Program Manager in writing of compliance results and request to submit a corrective action plan within 15 calendar days a plan to correct deficiency. Monitor
11 th	EMS Agency reviews Stroke Center's 10 th month compliance with all performance measures	No significant improvement Significant improvement	Within 15 days of EMS Agency's receipt of Stroke Center's corrective action plan, the EMS Agency will provide Stroke Center a written approval or request additional modification to Stroke Center's corrective action plan. Monitor
12 th	EMS Agency reviews Stroke Center's 11 th month compliance with all performance measures	No significant improvement Improvement based on approved corrective action plan	EMS Agency notifies Stroke Medical Director and Program Manager in writing of compliance results and request modification to Stroke Center's corrective action plan. Monitor
13 th	EMS Agency reviews Stroke Center's 12 th month compliance with all performance measures	No significant improvement Improvement based on approved corrective action plan	EMS Agency notifies Stroke Center's Chief Executive Officer or President in writing of compliance results and continued failure to meet performance measures. Stroke Center is placed on a 3-month provisional status. Monitor
14 th	EMS Agency reviews Stroke Center's 13 th month compliance with all performance measures	No significant improvement	EMS Agency will notify Stroke Center of continued non-compliance

Month	Action 1	Compliance Result	Action 2
		Improvement based on approved corrective action plan	Monitor
15 th	EMS Agency reviews Stroke Center's 14 th month compliance with all performance measures	No significant improvement Improvement based on approved corrective action plan	EMS Agency will notify Stroke Center of continued non-compliance Monitor
16 th	EMS Agency reviews Stroke Center's 15 th month compliance with all performance measures	No significant improvement Improvement based on approved corrective action plan	EMS Agency notifies Stroke Center's Chief Executive Officer or President in writing that continued noncompliance may result in removal of Stroke Center designation. Monitor
17 th	EMS Agency reviews Stroke Center's 16 th month compliance with all performance measures	No significant improvement	EMS Agency will notify Stroke Center's Chief Executive Officer or President in writing of removal of hospital's Stroke Center designation.